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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/926,805	04/08/2002	Ravinder K. Jain	44838	1656

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EXAMINER

MCELWAIN, ELIZABETH F

ART UNIT	PAPER NUMBER
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1638

DATE MAILED: 03/23/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/926,805

Applicant(s)

JAIN ET AL.

Examiner

Elizabeth F. McElwain

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-43 is/are pending in the application.
- 4a) Of the above claim(s) 6-11, 13-16, 18-20, 26, 27, 29-31, 34-36, 38 and 40-42 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5, 12, 17, 21-25, 28, 32, 33, 37, 39 and 43 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 April 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election with traverse of Group I, SEQ ID NO: 2 and 7, in the paper filed December 23, 2003 is acknowledged. The traversal is on the ground(s) that the International search report found the claims to be novel and unobvious over the prior art, and the Murata and Nishizawa references relate to expressing a plastidial GPAT in tobacco for improving chilling tolerance and Wolter et al teach expressing a bacterial GPAT in arabidopsis, and state that altering triglycerides would not be inherent. In addition, applicants state that the restriction states that group II is drawn to "increasing the triglyceride content of a plant by transforming yeast" and this is confusing. Applicant further argues the requirement to elect one sequence for search, stating that it is based on rules that relate to national applications rather than to national phase applications. This is not found persuasive because the national stage application is not bound to the conclusions of the international search report, and the claims encompass the use of any GPAT and increasing the triglyceride content is only provided in the preamble. There are no steps provided for the determination of triglyceride content. Given that the same gene is used for transformation and expression in a plant, the alteration of triglycerides would be inherent in the same method that has already been taught. Also, the recitation of "increasing the triglyceride content of a plant by transforming yeast" was in error. It should have read "increasing the triglyceride content of an organism by transforming yeast". The Examiner maintains that the restriction of sequences is proper in national phase applications for the reasons set forth in the restriction requirement.

The requirement is still deemed proper and is therefore made FINAL.

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Claims 1-43 are pending.

Claims 6-11, 13-16, 18-20, 26, 27, 29-31, 34-36, 38 and 40-42 are withdrawn as drawn to nonelected inventions.

Claims 1-5, 12, 17, 21-25, 28, 32, 33, 37, 39 and 43 are drawn to the elected invention and are examined on the merits.

***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 2, 3 and 43 are rejected under 35 U.S.C. 102(b) as being anticipated by Nishizawa.

Nishizawa (column 11-13) teaches transforming a plant with a DNA encoding a protein having GPAT activity and having at least 70% identity to SEQ ID NO: 7 and expressing the activity in the plant, wherein an increase in triacylglyceride content would be inherent in the same process.

4. Claims 1, 12, 17, 21, 28, 32, 33, 37, 39 and 43 are rejected under 35 U.S.C. 102(b) as being anticipated by Murata.

Murata teaches transforming an organism with a DNA encoding a protein having GPAT activity having at least 70% sequence identity to a nucleic acid encoding SEQ ID NO: 7

and expressing the activity in the plant, wherein an increase in triacylglyceride content would be inherent in the same process.

***Claim Rejections - 35 USC § 103***

5. Claims 1-5, 12, 17, 21-25, 28, 32, 33, 37, 39 and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishizawa as applied to claims 1, 2, 3 and 43 above, and further in view of Davies et al (U.S. Patent 5,563,058) and Bhella et al (Plant Physiol. 106:1713-1714,1994 in IDS).

Nishizawa (column 11-13) teaches transforming a plant with a DNA encoding a protein having GPAT activity and having at least 70% identity to SEQ ID NO: 7 and expressing the activity in the plant, wherein an increase in triacylglyceride content would be inherent in the same process.

Nishizawa does not teach specifically a DNA encoding a protein having GPAT activity having at least 70% sequence identity to a nucleic acid encoding SEQ ID NO: 7.

Davies et al teach transforming Arabidopsis with DNA encoding LPAAT to produce a plant with increased triacylglycerides.

Bhella et al teach a DNA encoding a protein having GPAT activity having at least 70% sequence identity to a nucleic acid encoding SEQ ID NO: 7.

Given the recognition of those of ordinary skill in the art of the value of transforming a plant with a DNA encoding a protein having GPAT activity, as taught by Nishizawa et al, it would have been obvious to substitute an Arabidopsis plant, using the methods of transforming

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Arabidopsis, taught by Davies et al, where it was shown that triacylglycerides could be increased in transformed Arabidopsis, and it would have been obvious to substitute the a DNA encoding a protein having GPAT activity having at least 70% sequence identity to a nucleic acid encoding SEQ ID NO: 7 taught by Bhella et al., and the increase in triacylglycerides in an organism transformed by a DNA encoding a protein having GPAT activity would be inherent, as evidenced by statements in the specification at page 1, lines 21-22, where it teaches that GPAT catalyzes the first reaction in triacylglyceride synthesis. Thus the claimed invention would have been prima facie obvious as a whole at the time it was made, especially in the absence of evidence to the contrary.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elizabeth F. McElwain whose telephone number is (571) 272-0802. The examiner can normally be reached on increased flex time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amy Nelson can be reached on (571) 272-0804. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Elizabeth F. McElwain  
Ph.D. Level Examiner  
Art Unit 1638

EFM